

KORSUNSKAYA, V.M.

SEMENOV, Petr Semenovich, instruktor po trudovomu sel'skokhozyaystvennomu obucheniyu; *KORSUNSKAYA, V.M.*, red.; SHAPOSENIKOVA, A.A., red.; TARASOVA, V.V., tekhn.red.

[Farm labor in children's homes; practices of Staraya Ladoga Children's Home No.1] Sel'skokhoziaistvennyi trud v detskom dome; iz opyta Staroladozhskogo detskogo doma No.1. Pod red. V.M.Korsunskoi. Moskva, Izd-vo Akad. pedagog. nauk RSFSR, 1957. 36 p. (MIRA 11:2)
(Agriculture--Study and teaching)

KORSUNSKAYA, V.M.
GRODENSKIY, Grigoriy Pavlovich; KORSUNSKAYA, V.M., red.; FIALKINA, G.A.,
red.; TARASOVA, V.V., tekhn.red.

[Readings in biology outside class] Vneklassnoe chtenie po biologii.
Pod red. V.M.Korsunskoi. Moskva, Izd-vo Akademii pedagog. nauk
RSFSR, 1957. 49 p. (MIRA 11:4)
(Biology--Study and teaching)

KORSUNSKAYA, V.M., red.; FIALKINA, G.A., red.; GARNEK, V.P., tekhn.red.;

[Developing the interest of students in nature and agriculture]
Razvitie interesa uchashchikhsia k prirode i sel'skomu khoziaistvu;
sbornik. Pod red. V.M.Korsunskoi. Moskva, 1957. 54 p. (MIRA 11:4)

1. Akademiya pedagogicheskikh nauk RSFSR, Moscow. Institut
pedagogiki, Leningrad.
(Botany--Study and teaching)

KORSUNSKAYA, V.M.; VURBANCVA, Tsv. [translator]

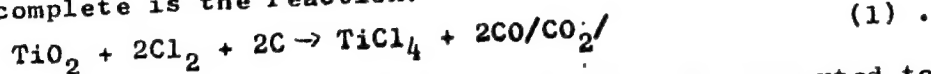
Definition of methods. Biol i khim 4 no.2:20-25 '62.

S/180/62/000/005/002/011
E193/E383

AUTHORS: Chizhikov, D.M. and Korsunskaya, V.N. (Moscow)
TITLE: Concerning the problem of chlorinating titanium-bearing materials

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Otdeleniye tekhnicheskikh nauk. Metallurgiya i toplivo, no. 5, 1962, 74 - 80.

TEXT: The chlorination process is the basis of modern methods of extraction of titanium. The efficiency of the process depends on how complete is the reaction:



Optimum results are obtained when all the TiO_2 is converted to TiCl_4 , i.e. when no secondary reactions occur which might lead to the formation of lower titanium chlorides. The object of the present investigation was to determine the extent to which these secondary reactions depend on the composition of the solid charge and the gaseous mixture. To this end, the authors studied the

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Concerning the problem

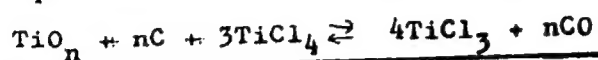
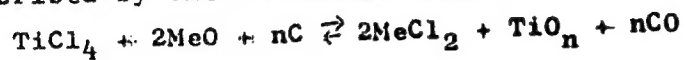
reactions between titanium tetrachloride and titanium, iron, calcium, manganese, aluminium and silicon oxides at various temperatures and determined the effect of the carbon content of the charge and chlorine concentration in the gaseous mixture on the course of the chlorination process and on the reaction products. The experiments were conducted on small (1.5 g) samples of each oxide, both taken singly and mixed in various combinations with and without carbon additions. Tests on industrial slags containing all the five oxides studied were also conducted. The test temperatures ranged from 600 - 1 100 °C. An argon/TiCl₄ mixture with a TiCl₄ partial pressure of 320 mm Hg was used in the experiments; when chlorine was added to the mixture its partial pressure ranged from 30 - 160 mm Hg. The results can be summarized as follows. 1) TiCl₄ enters into an exchange reaction with all the oxides studied, as a result of which TiO₂ and a chloride of the appropriate metal are formed. 2) In the presence of carbon a reaction between TiCl₄ and metal oxides takes place, leading to the formation of metal chlorides and TiCl₃. The latter

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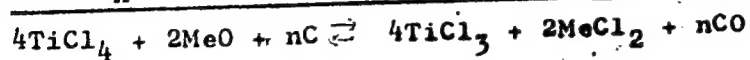
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E193/E383

Concerning the problem

compound is formed as a result of a complex process which can be described by the following equations:



(4) . .



3) The undesirable formation of TiCl_3 is inhibited when the gaseous mixture contains chlorine. The effect of various factors on the quantity of TiCl_3 formed in the slag (79.9% TiO_2 , 2.2% Fe_2O_3 , 4.85% SiO_2 , 6.8% Al_2O_3 , 1% CaO , 6.15% MgO)- TiCl_4 -C- Cl_2 is demonstrated in Fig. 4; in graph a the TiCl_3 yield (%) is plotted against the partial pressure of Cl_2 (P_{Cl_2} , mm Hg) in the gaseous mixture, curves 1, 2 and 3 relating to test Card 3/4

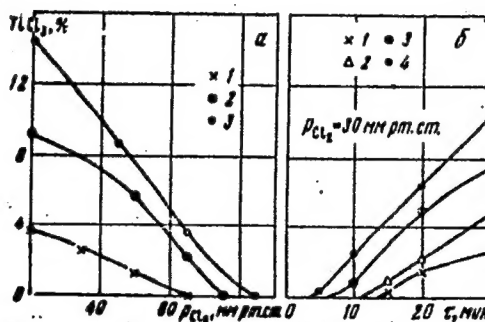
Concerning the problem

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E193/E383

temperatures of 1 000, 1 100 and 1 200 °C; in graph 5 the TiCl_3 yield in experiments conducted at a partial pressure of chlorine of 30 mm Hg is plotted against the reaction time (τ , min), curves 1-4 relating to test temperatures of 1 000, 1 050, 1 100 and 1 200 °C. It will be seen that under certain conditions the formation of TiCl_3 can be entirely suppressed. There are 4 figures and 6 tables.

SUBMITTED: December 6, 1961

Fig. 4:



Card 4/4

137-1958-2-2647

Korsunskaya, V.N.
Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 2, p 63 (USSR)

AUTHORS: Tratshevitskaya, B. Ya., Trusova, V. G., Chizhikov, D. M.,
Korsunskaya, V. N.

TITLE: Separating Niobium and Titanium in the Form of Complex Chlorides
(Razdeleniye niobiya i titana v vide khlordnykh kompleksov)

PERIODICAL: Tr. In-ta metallurgii AN SSSR, 1957, Nr 2, pp 87-91

ABSTRACT: In connection with the problem of purifying the separate components of a chloride condensate obtained by chlorinating loparite [Transl. Ed. Note: A mineral of the perovskite group (CaTiO_3) in which the Ti^{4+} is replaced by Nb^{5+} and Fe^{3+} and the Ca^{2+} is replaced by Ce^{2+} and Na^+ ; sp. gr. 4.88; color dk. brown; usually isotropic; found in alkaline rocks] concentrates, a study was made of the behavior of complex chloride Nb and Ti salts with K and NH_4 in HCl solutions saturated with HCl (gas) at temperatures of 0° and -10° . The Ti concentration varied from 0.3 to 5 grams per liter, the Nb concentration from 5 to 15 g/l, the Ti-Nb ratio from 1:1 to 1:150. The precipitating agent, KU or NH_4Cl , was added in an amount which exceeded by 40 percent the

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137-1958-2-2647

Separating Niobium and Titanium in the Form of Complex Chlorides

stoichiometric requirement. Precipitation last 72 hours. From the solution containing 1 g/l of Ti in the form of $(\text{NH}_4)_2\text{TiCl}_6$ it was possible at 0° to precipitate 96 percent of the Ti. Precipitation thoroughness decreased as the Ti concentration increased; precipitation thoroughness increased when the temperature was lowered to -10° . In a concentration of 15 g/l the Nb did not precipitate when Ti was absent. When Ti was present, a marked coprecipitation of Nb was observed. The degree of concentration of Nb did not affect the completeness of precipitation of Ti. When the Nb-Ti ratio was increased to 50:1, coprecipitation of Nb decreased; it continued to remain relatively high, however. Separation of Ti from the mixed solutions was best done with an Nb-Ti ratio of from 20:1 to 50:1, a starting Ti concentration of ≤ 0.3 g/l, and a precipitation time of 2 - 2.5 days. When KCl was used as precipitating agent, the precipitation of Ti was less complete; the behavior of the Nb was not affected by it.

V.M.

1. Niobium--Separation 2. Titanium--Separation 3. Chlorides--Formation

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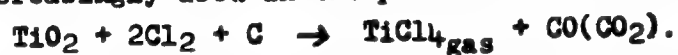
S/136/60/000/012/004/010
E193/E183

AUTHORS: Chizhikov, D.M., Zviadadze, G.N., and Korsunskaya, V.N.

TITLE: Reaction Between Titanium Tetrachloride and Titanium
Dioxide in the Presence of Carbon

PERIODICAL: Tsvetnyye metally, 1960, No. 12, pp. 42-46

TEXT: The basic reaction in the chlorine process, which is increasingly used in the production of titanium, is:



Whatever modification of the process is employed, secondary reactions take place between titanium tetrachloride and metallic oxide. Rational control of the process is not possible without proper understanding of these reactions, one of which was the object of the present investigation. The experiments consisted in heating a TiO_2 -C powder compact in a stream of titanium tetrachloride, mixed in various proportions with dry argon. It was established that under these conditions titanium trichloride and carbon monoxide are formed. The formation of titanium trichloride begins at 900 °C and its rate increases with rising

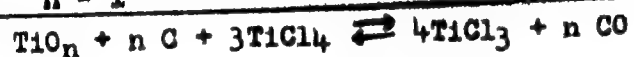
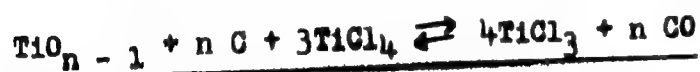
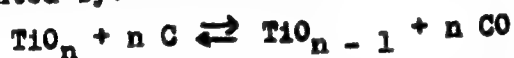
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E193/E183

Reaction Between Titanium Tetrachloride and Titanium Dioxide in the Presence of Carbon

temperature. The process can be intensified by increasing the partial pressure of titanium tetrachloride in the $TiCl_4$ -A mixture up to 300 mm Hg; further increase in the partial pressure of $TiCl_4$ brings about only a small increase in the yield of $TiCl_3$. Maximum yield of this compound is obtained when titanium dioxide and carbon are present in equal molar proportions. It was inferred from the experimental data on the kinetics of the process studied, that it constitutes a multi-stage reaction which can be represented by:



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S/136/60/000/012/004/010
E193/E183

Reaction Between Titanium Tetrachloride and Titanium Dioxide in
the Presence of Carbon

The results of the present investigation indicate that when the chlorine process is used for treatment of titanium-bearing materials, $TiCl_3$, formed as a result of the secondary reactions, may reduce the yield of titanium tetrachloride. The presence of $TiCl_3$ in gases leaving the chlorinator may cause complications during subsequent condensation. When chlorine is made to react with molten material, losses of titanium and chlorine may occur as a result of dissolution of $TiCl_3$ in $TiCl_4$. On the other hand, the results of the present investigation may provide a basis of a process for production of titanium trichloride which, by itself, is a valuable material.

There are 6 figures and 2 tables.

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S/080/62/035/002/004/022
D204/D302

AUTHORS: Chizhikov, D. M., Rabinovich, B. N., Subbotin, Ye. A.
and Korsunskaya, V. N.

TITLE: Separation of fluorine from the rare earths in solutions also containing Ca and Si, by an ion exchange method

PERIODICAL: Zhurnal prikladnoy khimii, v. 35, no.2, 1962, 276-280

TEXT: The aim of the present work was to obtain pure lanthanon oxides M_2O_3 from natural and synthetic solutions containing Ca and Si. Experimental solutions contained 2 - 3 $\sum M_2O_3$, 3 - 12.8 Ca, 0.45 - 1.6 Fe, 0.4 - 0.8 F and 0.5 - 0.75 g/l of Si, in HCl. The natural solutions, in 5% HCl, contained admixtures of Ca, Ba, Fe, Si, Al, Ti and F. Separations were effected on the $\gamma K-2$ (UK-2) cationite (sulphonic acid type, in the H-form). The rare earths were adsorbed quantitatively, while the filtrate leaving the column contained all F and Si, as well as 75 - 80% of the original Ca and

Card 1/3

Funasaka,

APPROVED

CIA-RDP86-00513R

Separation of fluorine ...

S/080/62/035/002/004/022
D204/D302

M. Kawane and T. Kojima, Met. Fac. Eng., Kyoto Univ., 18, 1, 44-
50 (1956).

SUBMITTED: July 1, 1960

Card 3/3

ACC NR: AP7002242

SOURCE CODE: UR/0280/66/000/006/0116/0122

AUTHOR: Korsunskaya, V. O. (Moscow)

ORG: none

TITLE: Some principles of forming features for pattern recognition

SOURCE: AN SSSR. Izvestiya. Tekhnicheskaya kibernetika, no. 6, 1966, 116-122

TOPIC TAGS: pattern recognition, ~~new pattern recognition features~~, mathematical statistics, ~~maximum likelihood ratio~~

ABSTRACT:

The importance of decreasing the dimensions of features used in deriving algorithms for pattern recognition is pointed out. This paper deals with determining some principles for forming a new system of uncorrelated features of lower dimensions from an arbitrary given system of features. The formation of new features is considered as a problem of mathematical statistics of determining the necessary and sufficient statistics for distributions of initial features. The case of many-dimensional normal distribution of initial features for a given class of patterns is considered. On the basis of the likelihood criterion (ratio), it is found that the most effective features for pattern recognition are those which have minimal absolute values of the difference of their

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UDC: none

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mathematical expectations as well as of their variances. New features are obtained which are linear combinations of the initial features and whose variances are minimal as compared with the variances of all other uncorrelated linear combinations. The procedure for calculating new features is based on solving the eigenvalue problem for covariance matrices. Some properties of the proposed algorithm for deriving new features of pattern recognition are analyzed. As an illustration, examples of recognition of hand-written characters are presented. Orig. art. has: 5 figures and 23 formulas.

SUB CODE: 09/

ATD PRESS: 5112

SUBM DATE: 15Feb66/

ORIG REF: 003/

OTH REF: 004/

Card 2/2

KORSUNSKAYA, Ye.

VAL'DGARD, Sergey Leonidovich; KORSUNSKAYA, Ye., redaktor;
YAKOVLEVA, Ye., tekhnicheskij redaktor.

[Talks on the universe] Besedy o vselennoi. Moskva, Mosk.
rabochii, 1957. 175 p. (MLRA 10:4)
(Cosmology)

KORSUNSKIY, A.A.; RAZUMNOV, I.G.

[Device for monitoring the thickness of thin films obtained by means of vacuum atomization of materials] Indikator tolshchiny tonkikh sloev, poluchaemykh metodom vakuumnogo raspyleniya materialov. Moskva, In-t tochnoi mekhaniki i vychislitel'noi tekhniki Akad.nauk SSSR, 1961. 13 p.

(MIRA 15:5)

(Thickness measurement)

(Electronic measurements)

KOBELEV, V.V.; KORSUNSKIY, A.A.; Primala uchastiye KRIVCHENKOVA, R.N.

[Domain structure of uniaxial ferromagnetic films] Domennaya
struktura odnoosnykh ferromagnitnykh plenok. Moskva, In-t teh-
noi mekhaniki i vychislitel'noi tekhniki Akad. nauk SSSR, 1961.
29 p. (MIRA 14:8)

(Ferromagnetism) (Magnetic materials)

S/721/61/000/000/004/006

AUTHORS: Kobelev, V. V., Korsunskiy, A. A.

TITLE: The domain structure of monoaxial ferromagnetic films.

SOURCE: Akademiya nauk SSSR. Institut tochnoy mekhaniki i vychislitel'noy tekhniki. Magnitnyye elementy ustroystv vychislitel'noy tekhniki; sbornik statey. Moscow, 1961, 85-96.

TEXT: The paper reports the result of an experimental investigation in which the observation of the magnetic structure of ferromagnetic films was performed by the use of the magneto-optical Kerr effect, that is, the rotation of the polarization plane of light that is polarized in the plane of impingement or perpendicular thereto during its impingement in the direction of the magnetic moment (the meridional Kerr effect). The direction of the rotation is determined by the direction of the magnetic moment, whereas the magnitude of the angle of rotation is substantially dependent on the magnetic moment itself. Thus it is possible to use a polarizing element to extinguish almost completely light reflected from one region of a ferromagnetic film (for a given direction of the magnetic moment); because of the smallness of the effect there remains a fairly small but noticeable portion of the light reflected from another region (with a different magnetic moment). Thus the reflection

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The domain structure of monoaxial

S/721/61/000/000/004/006

of light on a ferromagnetic film comprising a plurality of domains produces an image with dark and bright areas. This method is potentially inertia-free (by contrast with the powder method) and permits the observation of the domain structure of a large specimen, but practically fails to provide any means for enlarging the image. The optical equipment used is similar to that described by Fowler, C. A., and E. M. Fryer, Phys. Rev., v. 94, 1954, 52. The light source used was a krypton-xenon high-pressure light ГСВД 120 (GSVD 120). The method of the making of the ferromagnetic film element by vacuum spraying the ferromagnetic material onto a heated clean glass base placed in a magnetic field parallel to the plane of the base is described. The spraying vacuum was $3 \cdot 10^{-5}$ mm Hg, the base T 300°C , the magnetic field 50 ϕ . The alloys sprayed were Permalloys with [Ni] from 80 to 83%. The domain structure of a monoaxial film specimen during magnetic polarity reversal (MPR) along the low-energy ("light") axis and along the high-energy ("heavy") axis are described and illustrated by photographs. This is supplemented by a description and photographs of the bright- and dark-area patterns revealing the domain structure during MPR by a field directed at an angle to the "light" axis and by a field that is close to, but not coincident with, the "heavy" axis. There are 12 figures and 8 references (2 German and 6 English-language).

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24,2200

25603

S/048/61/025/005/017/024

B117/B201

AUTHORS: Kobleev, V. V., and Korsunskiy, A. A.

TITLE: Domain structure of uniaxial ferromagnetic films

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya,
v. 25, no. 5, 1961, 628-633

TEXT: The present investigation was the subject of a lecture delivered at a symposium on thin ferromagnetic films (Krasnoyarsk, July 4 to 7, 1960). The magnetic structure of ferromagnetic films was studied with the aid of the magneto-optical Kerr effect. The optics of the device used in the investigation was similar to that described in Ref. 2 (Fowler G. A., Fryer E. M., Phys. Rev., 94, 52 (1954)) (Fig. 1). The light source was a krypton-xenon lamp of the type FC80-120 (GSVD-120). The polarizers were gyropatite polarizing foils. The homogeneous magnetic field was brought about by means of two pairs of rectangular coils oriented in perpendicular to each other. The field H_z lying in the plane of beam incidence was produced by one pair, and the perpendicular field H_y by the other. The specimens were produced by sputtering ferromagnetic material in vacuum

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B117/B201

Domain structure of uniaxial...

hysteresis loop relative to a number of pictures is presented in Fig. 3. The second part, which characterizes the magnetic reversal of the specimen on the passage from the negative to the positive fields, was constructed considering symmetry, and drawn with the aid of a thin line. During magnetic reversal with a field oriented along the axis of easiest magnetizing, and when at the same time applying a field along the axis of heavy magnetizing, domains appear, whose structure differs little from the previous one. Still, there are some particular aspects here: the stronger the field H_x oriented in the direction of heavy magnetizing, the smaller will be the parts of the field H_z in which the domains arise and expand. The field H_z which corresponds to the end of magnetic reversal drops more slowly. The first wedges are inclined toward the direction of the outer field. This inclination is reduced with a growth of the domains, and near the specimen center the boundaries run about parallel to the axis of easiest magnetizing. The larger H_x , the narrower and longer the first wedges will be. Their number rises and at the same time it can be observed that the boundaries deviate from the axis of easiest magnetizing not in the direction of the field but in the reverse direction. A fine domain structure then appears, the walls of which are inclined in

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25803

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B117/2201

Domain structure of uniaxial...

different directions. The case of a magnetically uniaxial film which is divided in domains and which is placed in an arbitrary outer field is examined more closely. A scheme illustrating the inclination of the boundaries in a magnetically uniaxial film is presented by Fig. 8. It is easily found that the domain structure can exist only in the presence of such fields as correspond to the points within the astroid. There are two stable states in magnetization. The boundary is assumed to shift in the fields h_z and h_y . This corresponds to point P within the astroid.

The direction of magnetizations \vec{I}_1 and \vec{I}_2 is characterized by the acute angles α_1 and α_2 . The angle $\Delta\alpha$ between the boundary and the axis of easiest magnetizing is found to be equal to $\gamma = 90^\circ$. $\Delta\alpha = (\alpha_1 - \alpha_2)/2$.

Even without having analytically precise formulas for α_1 and α_2 it is still clear that $\Delta\alpha$ can assume no high values. The extreme values of $\Delta\alpha$ can be easily found within the range

$$h_x^{2/3} - h_z^{2/3} \leq 1; \quad h_x \geq 0; \quad h_z \geq 0 \quad (11)$$

by the method of undefined Lagrange factors. A system of equations is

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B117/B201

Domain structure of uniaxial...

found by this method, which has a single trivial solution::

$\alpha_1 = \alpha_2 = h_x = h_z = 0$. This corresponds to the salient point. There is no maximum nor minimum within the region (11). As a consequence, the maximum of $\Delta\alpha$ is at the boundary of this region. This maximum can be easily found if h_x and h_z are expressed by α_2 . $h_z = \cos^3 \alpha_2$; $h_x = \sin^3 \alpha_2$.

The final formula reads:

$$\sin(\alpha_1 - \alpha_2) = (1/2)\sin 2\alpha_2 \quad (14).$$

The argument at the left-hand side is $2\Delta\alpha$. Its maximum can be found by differentiating formula (14) with respect to α_2 . As a result, $\alpha_2 = 45^\circ$

and $\Delta\alpha_{\max} = 15^\circ$ (15). The observed inclination of the domain walls confirms

the idea that in first approximation the magnetic rotations within the domains are independent of the existence and of the shift of the boundaries between the domains. There are 8 figures and 8 non-Soviet-bloc references. The four references to English-language publications read as follows: Williams H., Sherwood R., J. Appl. Phys., 28, 548 (1957); Prutton M., Philos. Mag., 4, 1063 (1959) and Bitt. J. Appl. Phys. 11.

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S/048/61/025/005/017/024.
B117/B201

Domain structure of uniaxial...

335 (1960); Proebster W. E., Nathfessel S., Kinberg C. O., UNESCO (N3)
ICIP/K 2.

ASSOCIATION: Institut tochnoy mekhaniki i vychislitel'noy tekhniki
Akademii nauk SSSR (Institute of Precision Mechanics and
Computing Technique of the Academy of Sciences USSR)

Legend to Fig. 1: Optics of
a device for observing the
domain structure of ferro-
magnetic films. 1, light
source; 2, condenser lens;
3, diaphragm; 4, collimator
lens; 5, interference light
filter; 6, polarizer; 7,
specimen; 8, analyzer;
9, objective; 10, projection
screen.

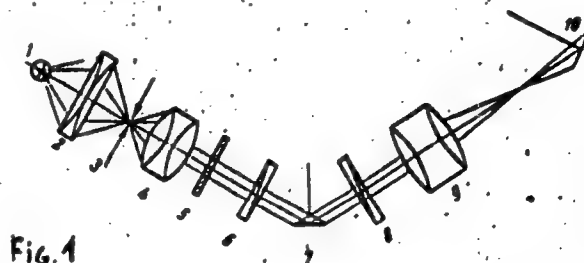


Fig. 1

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S/120/62/000/005/026/036
E192/E382

AUTHORS: Kobelev, V.V. and Korsunskiy, A.A.

TITLE: A simple null indicator for the magnetic field of a ferromagnetic film.

PERIODICAL: Priory i tekhnika eksperimenta, no. 5, 1962, 154 - 156

TEXT: A ferromagnetic film having a single-axis anisotropy remains in an unstable state when it is magnetized along the "difficult" axis. When a weak external field parallel to the "easy" axis is applied, the ferromagnetic film assumes one of two possible stable states. The instrument described is based on this principle. This is illustrated in Fig. 2. A 2 500 Å thick film is made of 82% Ni and 18% Fe and deposited onto a glass base 2 (a glass plate 18 x 18 mm²). The magnitude of the residual magnetic flux of the film is 0.2 maxwell. An alternating magnetic field of a frequency which can be varied from 1 - 10 kc/s is applied along the axis of difficult magnetization by means of a flat coil W_1 , consisting of 25 turns of 1 mm wire. The signal coil W_2 (see Fig. 2) consists of Card 1/2

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E192/E382

A simple null indicator

150 turns of 0.08 mm wire and this is inserted directly onto the glass. Due to the fact that W_1 and W_2 are perpendicular, the signals induced in W_2 are caused by the magnetic film. These signals are integrated, amplified and then applied to the vertical plates of an oscilloscope. The horizontal plates receive a signal which is proportional to the current producing the alternating field. The polarity of the signal, which is in the form of two pulses, determines the direction and magnitude of the magnetic field along the axis X . The instrument can be used for reading the fields down to ± 0.01 Oe. There are 6 figures.

ASSOCIATION: Institut tochnoy mekhaniki i vychislitel'noy tekhniki AN SSSR (Institute of Precision Mechanics and Computing Techniques of the AS USSR)

SUBMITTED: December 2, 1961

Card 2/2

KORSUNSKIY, A.A.

Equipment for the study of the domain structure of ferromagnetic
films. Trudy inst. Kon.stand.mer i izm. prib no.64:300-304 '62.
(MIRA 16:5)

(Domain structure)(Magnetic measurements--Equipment and supplies)

L 36437-66 EWT(1)

ACC NR: AP6015419

SOURCE CODE: UR/0051/66/020/005/0780/0782

AUTHOR: Korsunskiy, A. A.

ORG: none

TITLE: Effect of the medium on the spontaneous radiation of a molecule

SOURCE: Optika i spektroskopiya, v. 20, no. 5, 1966, 780-782

TOPIC TAGS: transition probability, transition radiation, resonator, dielectric constant

ABSTRACT: It is shown by successive applications of the quantum theory that the problem of spontaneous radiation of a molecule amounts to solving a system of partial differential equations which include in explicit form the dielectric constant of the medium surrounding the molecule. The transition probability is a function of the position of the radiating molecule and of the orientation of its dipole moment. What is actually considered is the radiation of a molecule acted upon by an electromagnetic field in thermodynamic equilibrium. A strictly spontaneous radiation is obtained as a result of the limiting transition $T \rightarrow 0$. The transition probability is obtained by solving a matrix density equation by use of the perturbation theory. A case of particular interest which is discussed involves radiation in a closed plane-parallel ideal resonator filled with a homogeneous and isotropic absorbing medium. In conclu-

UDC: 539.196.3:535.33

Card 1/2

KORSUNSKIY, A.I.; LEVINSKIY, L.G., ~~inzh.~~; TIBILOV, B.A.; REYZ, M.B.,
red. izd-va; PUL'KINA, Ye.A., ~~tekh.~~ red.

[Structural plastics] Stroitel'nye plastiki. Leningrad, Gos-
stroizdat, 1962. 128 p. (MIRA 15:12)
(Building materials) (Plastics)

1. KORSUNSKIY, A. M.
2. USSR (600)
4. Labor Productivity
7. Discover and utilize all possibilities and resources that will increase labor productivity. Tabak 14 no. 1, 1953

9. Monthly List of Russian Accessions, Library of Congress, June 1953. Unclassified.

SANDOMIRSKIY, D.M.; KORSUNSKIY, B.L.

Ionic deposition of rubber from latexes. Kauch.i rez. 20 no.5:
15-20 My '60. (MIRA 14:5)

1. Moskovskiy institut tonkoy khimicheskoy tekhnologii im. M.V.
Lomonosova.

(Latex)

KORSUNSKIY, B. L.; DUBOVITSKIY, F. I.

Kinetics of the thermal decomposition of N, N-dimethylnitroamine.
Dokl. AN SSSR 155 no. 2:402-405 Mr '64. (MIRA 17:5)

1. Institut khimicheskoy fiziki AN SSSR. Predstavleno akademikom
V. N. Kondrat'yevym.

KORSUNSKIY, G.P., inzh.

Changing the design of the reducing gear of a mechanism for
opening and closing flaps in aeration clerestories. Bezop. truda
v prom. 5 no.2:30 F '61. (MIRA 14:2)
(Dnepropetrovsk—Factories—Heating and ventilation)

NOVCHILOV, M.G., doktor tekhn. nauk; TARTAKOVSKIY, B.N., kand.
tekhn. nauk; ESKIN, V.S., kand. tekhn. nauk; KORSUNSKIY, G.Ya.,
inzh.

Parameters of an efficient flow-sheet for mining with belt
conveyor transportation. Ugol' Ukr. 10 no. 1:20-24
Ja '66.

(MIRA 18:12)

1. Dnepropetrovskiy gornyy institut.

AUTHOR: Korsunskiy, I. Professor, Doctor Phys.Math.Sci., Lagunov, A.S.,
Candidate of Technical Sciences, Baivel', L.P., Candidate of
Technical Sciences and Sinel'nikov A.N., Candidate of Technical
Sciences.

TITLE: Pick-up for recording changes in the gaps in a steam turbine.
(Datchik dlya registratsii izmeneniya zazorov v parovoy
turbine.)

PERIODICAL: "Energomashinostroenie" (Power Machinery Construction),
1957, No. 5, p. 26, (U.S.S.R.)

ABSTRACT: The pick-up is designed to record changes in the gaps
between the rotor and stator of a steam turbine over the range
of 2 - 5 mm with an accuracy of 0.1 mm. It can be used in
an atmosphere of steam at temperatures of up to 500 °C and
pressures up to 100 atmospheres. It is based on the principle
of an induction pick-up, change in magnetic resistance with
change in distance between the core and the surface closing
the magnetic circuit. The device is described and illustrated.
It consists of primary and secondary windings wound on a core
of transformer steel and surrounded by a suitable steel frame
40 mm in diameter. The electrical circuit in which the equip-
ment is used consists of a stabilised voltage supply, a trans-
former and two identical pick-ups (one the operating pick-up
and the other compensating) with the primaries connected in
series and the secondaries connected back-to-back. The current

Pick-up for recording changes in the gaps in a steam ³¹⁵turbine.
(Cont.)

flowing through the secondaries is rectified by a germanium diode and measured on a millivoltmeter.

2 figures, no literature references.

KORSUNSKIY, I.I.

Tours for the exchange of production experience are the most effective sources of technical information. NTI no.8:24 '65.
(MIRA 18:9)

1. Nachal'nik Otdela tekhnicheskoy informatsii Magnitogorskogo metallurgicheskogo kombinata.

VOYTOVETSKIY, V.K.; KORSUNSKIY, I.L.

Method of detecting α particles and fission fragments with a
scintillation counter in the presence of a strong β - or γ -background.
Atom.energ. 10 no.5:505-506 My '61. (MIRA 14:5)
(Alpha rays) (Scintillation counters)

L 16511-65 ENG(j)/CWT(m)/EXP(j)/EMA(h)/EMA(l) Pc-4/PeB DIAAP/SSD/AFWL/
ASD(p)-3 RM
ACCESSION NR: AP5000305 S/0056/64/047/005/1612/1627

AUTHORS: Voytovetskiy, V. K.; Korsunskiy, I. L.; Pazhin, Yu. F. B

TITLE: Neutron-neutron interaction in the S-state

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 47
no. 5, 1964, 1612-1627

TOPIC TAGS: neutron interaction, proton spectrum, neutron scattering, deuterium reaction, tritium reaction, inelastic scattering

ABSTRACT: The proton spectrum of the reaction $D(n, p)^2H$ was investigated near the upper limit for the purpose of determining the neutron-neutron scattering length, in the energy range from 7.5 to 13 MeV. A scintillation spectrometer was used, in which a complete separation of the protons and deuterons could be effected. A description of the spectrometer is printed elsewhere (PTE, in press, 1965). Neutrons with energy 13.9 MeV, obtained by interaction of

Card 1/3

L 16511-65

ACCESSION NR: AP5000305

accelerated deuterium ions with tritium nuclei, cause disintegration of deuterons in a deuterized polyethylene film. The protons emitted at 0° are analyzed by the scintillation spectrometer. The spectrum is described by means of an expression for the differential cross section of the reaction, obtained from an analysis of nonrelativistic Feynman diagrams corresponding to the inelastic scattering of the nucleon by the deuteron. A comparison of the experimental spectrum with the theoretical dependence of the differential cross section on the proton energy yields for the value of the neutron-neutron scattering length a value $-23.6_{+2}^{-1.6}$ F, corresponding to a singlet-state energy of 67_{-9}^{+12} keV. The value for the scattering length is close to that obtained for strict charge symmetry. "The authors thank A. B. Migdal, K. A. Ter-Martirosyan, I. S. Shapiro, V. N. Gribov, P. Ye. Spivak, G. S. Danilov, V. V. Komarov, and A. M. Popova for discussions and valuable remarks, and also A. B. Gil'var, A. I. Novikov, R. S. Silakov, A. A. Sirotkin, and G. V. Spiridonov

Card 2/3

L 16511-65

ACCESSION NR: AP5000305

for help with the experiments, and A. A. Rodionova for participating
in the calculations with the M-20." Orig. art. has: 10 figures and
14 formulas.

ASSOCIATION: None

SUBMITTED: 04Mar64

ENCL: 00

SUB CODE: NP

NR REF SOV: 014

OTHER: C10

Card 3/3

L 16094-65 ENG(j)/ENT(m)/ENP(j)/ENA(h)/ENA(1) Pc-4/Peb SSD/AFML RM
 ACCESSION NR: AP5000306 S/0056/64/047/005/1628/1630

AUTHORS: Voytovetskiy, V. K.; Korsunskiy, I. L.; Pazhin, Yu. M.

TITLE: Angular distribution of protons emitted in the reaction
D(n, p)2n

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 47,
 no. 5, 1964, 1628-1630

TOPIC TAGS: deuteron reaction, neutron bombardment, neutron cross
 section, proton cross section, angular distribution

ABSTRACT: This is a companion to an earlier paper in the same
 issue (ZhETF v. 47, 1612, 1964, Accession Nr: AP5000305), and is
 devoted to a measurement of the angular distribution of the protons
 in the same region of the spectrum, for purposes of comparison with
 the theoretical distribution. The experimental setup was the same
 as in the companion paper. The neutron source was the reaction

Card 1/3

L 16094-65

ACCESSION NR: AP5000306

$T(d, n)He^4$, and the average neutron energy was 13.9 MeV. The emitter was a deuterated polyethylene film 4.3 mg/cm^2 . The spectrum of the protons at different angles was determined with the aid of a telescope consisting of three scintillation counters, described in detail elsewhere (PTE, in press, 1965). The energy spectrum of the protons emitted in the $D(n, p)2n$ reaction was measured near the upper boundary at angles 4.5, 10, 15, and 20° . The results are shown that with increasing angle, the maximum of the differential cross section decreases and shifts towards more energies. The experiments have also shown that the linear dependence for the cross section for the production of protons in a broad energy interval adjacent to the upper limit of the spectrum is more gently sloping than at the peak. The cross section for the neutron production is approximately 1.6 times smaller than the proton production cross section. This decrease is due to the effect of Coulomb interaction of the proton and the deuteron, and to the influence of the Coulomb interaction of the protons. The results agree well with theory.

Card 2/3

L 16094-65
ACCESSION NR: AP5000306

Orig. art. has: 2 figures and 2 formulas.

ASSOCIATION: None

SUBMITTED: 04Mar64

ENCL: 00

SUB CODE: NP

NR REF SOV: 002

OTHER: C04

Card 3/3

VOYTOVETSKIY, V. K.; KORSUNSKIY, I. L.; PAZHIN, Y F.

"S-state neutron interaction."

report submitted for Intl Conf on Low & Medium Energies Nuclear Physics,
Paris, 2-8 Jul 64.

L 57117-65 EWT(m)/EPF(n)-2/EWA(h) Pu-4

ACCESSION NR: AP5011869

UR/0120/65/000/002/0034/0042

AUTHOR: Voytovetskiy, V. K.; Korsunskiy, I. L.; Novikov A. I.;
539.1.075:539.172.4

Editor: Yu. F.; Silakov, R. S.

TITLE: Spectrometer for the charged particles emitted in fast-neutron reactions

SOURCE: Priroda i tekhnika eksperimenta, no. 2, 1965, 34-42

TOPIC TAGS: spectrometer, scintillation spectrometer, fast neutron

ABSTRACT: An experimental outfit with a scintillation spectrometer for measuring energy and angular distributions of charged particles emitted in fast-neutron reactions is described. A neutron beam of energy 0.1-1 MeV is produced with a magnetron, analyzed by a magnetic field, and then by a series of tritium in each are used; total flux, 2×10^{10} neutrons/sec. A scintillation "telescope" includes two FEU-44 photomultipliers with 80- μ and 160- μ thick Cs(Tl) crystals and one FEU-42 photomultiplier with a 1.8-mm thick crystal. A combined voltage pulse from three detectors is shaped, amplified, and applied to a 300-channel energy analyzer controlled by a trip.e-

Card 1/2

KORSUNSKIY, I.M.; SMOROD, S.R.

Rolling thin steel strips without intermediate annealing. Proc.
energ. 12 no.7:22-23 J1 '57. (MIRA 10:8)
(Steel--Heat treatment)

KORSUNSKIY, I.D.

Radio dispatcher system for the Moscow subway. Gor.khoz.Mosk. 33
no.9:42-43 S '59. (MIRA 12:11)

1. Starshiy inzhener sluzhby signalizatsii, tsentralizatsii, bloki-
rovki i svyazi Moskovskogo metropolitena.
(Moscow--Subway) (Radio control)

KORSUNSKIY, I.D., starshiy inzhener

Dispatcher radio communication system which uses the contact rail
of the subway. Avtom. telem. i svyaz'. 4 no.5:25-26 My '60.

- (MIRA 13:8)
1. Sluzhba signalizatsii i svyazi Moskovskogo metropolitena.
(Subways--Communication systems)

KORSUNSKIY, L.F.

Film formation from water dispersions of some vinyl polymers,
and properties of films derived from them. Lakokras.mat. i
ikh prim. no.1:23-31 '60. (MIRA 14:4)
(Films (Chemistry)) (Vinyl-compound polymers)

KORSUNSKIY, L.F.

Aging of the dispersion films of some vinyl polymers. Report No.2.
Lakokras.mat.i ikh prim. no.5:11-18 '60. (MIRA 13:11)
(Polymers—Testing) (Vinyl compounds)

KORSUNSKIY, L. F., CAND TECH SCI, "DISPERSION OF VINYL
POLYMERS AS FILM-FORMING SUBSTANCES AND THE ^{use of them} ~~OR APPLICATION~~
IN ARTISTS' PAINTS." LENINGRAD, 1961. (MIN OF HIGHER AND
SEC SPEC ED RSFSR. LENINGRAD ORDER OF LABOR RED BANNER TECH-
NOLOGICAL INST IMENI LENSOVET). (KL-DV, 11-61; 220).

-156-

KORSUNSKIY, L.F.

Effect of irradiation and heat on the films formed by the pigmented
dispersions of some vinyl polymers. Report no.3. Lakokras.mat.1
ikh prim. no.1:18-23 '61. (MIRA 14:4)
(Pigments) (Vinyl compounds)

Z/011/61/018/001/006/014
E112/E453

AUTHOR: Korsunskiy, L.F.

TITLE: Formation of coating films from aqueous dispersions
of vinyl polymers and their properties

PERIODICAL: Chemie a chemická technologie, 1961, Vol.18, No.1, p.31,
abstract Ch 61-428 (Lakokras. Materialy, 1960,
No.1, pp.23-31)

TEXT: The mechanical and physical properties of surface coating materials and films produced therefrom, based on aqueous dispersions of co-polymers from vinyl acetate-vinyl butyrate, vinyl acetate-methacrylate, polymethylacrylate and polyvinylacetate were investigated. Polyvinyl alcohol was used as emulsifier. The effects of temperature, moisture, molecular weight, emulsifier, pigments and other factors on the coated film are presented in the form of graphs. Results are summarized in the form of tables, particularly the resistance to water of the produced surface coatings. 12 diagrams, 4 tables, 22 literature references.

[Abstractor's note: Complete translation.]

Card 1/1

S/081/62/000/011/053/057
E202/E192

AUTHOR:

Korsunskiy, L.F.

TITLE:

The action of irradiation and heat on the films of
pigmented dispersions of certain vinyl polymers.
Part III.

PERIODICAL: Referativnyy zhurnal, Khimiya, no.11, 1962, 621-622,
abstract 11 P 284. (Lakokrasochn. materialy i ikh
primeneniye, no.1; 1961, 18-23).

TEXT:

Investigations were made of the effect of ultraviolet
heat and ageing on physico-mechanical properties of pigmented
dispersed films, 100 μ thick, prepared on the basis of certain
vinyl polymers (polyvinyl-acetate and copolymers, vinyl acetate
with vinyl buturate and methyl acrylate in the ratio 85:15), and
also the effect of pigments (zinc whites, chromic oxide and
bright ochre) on the physico-mechanical properties of dispersed
films and on the character of the changes occurring in these
properties during the process of ageing. The method of preparing
the pigmented paste is described. It was established that the

Card 1/2

The action of irradiation and heat... S/081/62/000/011/053/057.
E202/E192

introduction of pigments into dispersed films subjected to irradiation leads to a rapid slowing down of the changes in elasticity, strength and tearing elongation of the dispersed films. The changes in the pigmented dispersed films (under conditions of accelerated ageing) under the action of irradiation and heat are not so pronounced as the changes in the non-pigmented dispersed films. Frequently, heating causes greater changes than does irradiation. It is concluded that the introduction of pigments increases the stability of dispersed films towards irradiation and heating. 7 references.

(Part II, see R.zh. Khim, 10, 1962, 10P301).

[Abstractor's note: Complete translation.]

Card 2/2

KORSUNSKIY, L.F.

Effect of pigments on the stability and structural and
mechanical properties of the systems pigment - polyvinyl
acetate dispersion. Report No.4. Lakokras.mat.i ikh prim.
no.1:19-22 '63. (Pigments) (MIRA 16:2)

(Vinyl acetate polymers)

KORSUNSKIY, L.M.

Electromagnetic flowmeters with reduced interference level. Izv.
tekh. no.6:92-95 M-D '57. (MIRA 10:12)

(Flowmeters)

S/115/60/000/010/018/028
B021/B058

AUTHOR: Korsunskiy, L. M.

TITLE: Electromagnetic Flowmeter With Square Channel

PERIODICAL: Izmeritel'naya tekhnika, 1960, No. 10, pp. 56-60

TEXT: A square-channel flowmeter with field-averaging electrodes was proposed in earlier non-Soviet papers (Fig. 1). Theoretical and experimental studies of such flowmeters were conducted at the KhGIMIP (Khar'kovskiy gosudarstvennyy institut mer i izmeritel'nykh priborov (Khar'kov State Institute of Measures and Measuring Instruments)). The potential distribution in the flowmeter channel can be expressed by equation (1). The channel cross section is shown in Fig. 2. The boundary conditions for the solution of equation (1) are determined next. With an adequate dimension of the channel and homogeneity of the magnetic field, the readings of electromagnetic flowmeters should not depend on the velocity diagram. The potential difference between the electrodes can be expressed by equations (10) and (11), the values of the coefficient K_1 being mentioned in Fig. 3. The secondary magnetic fields of the eddy currents in the liquid measured distort the magnetic field of the instrument by injuring its

Card 1/2

Electromagnetic Flowmeter With Square Channel

S/115/60/000/010/018/028
B021/B058

homogeneity. The errors connected therewith which the author discovered, are shown in Fig. 4. The dependence of the noise level on the inner resistance of the flowmeter can be seen from Fig. 5. The electromagnetic flowmeters are applicable to the majority of technical liquids. A flowmeter with the upper limit of $10 \text{ m}^3/\text{h}$ was used for Reynolds numbers 900 - 50,000 and one with the limit of $500 \text{ m}^3/\text{h}$ (Fig. 6) for $Re = 50,000 - 500,000$. Experimental results showed that the consumption coefficient does not depend on Reynolds number and consequently neither on the velocity diagram. The form of the selected resistors can be seen from Fig. 7. The results of a series of measurements are tabulated for instrument readings of $7 \text{ m}^3/\text{h}$. The statistical analysis of the measuring results showed that they have only a random spread which does not depend on the current distortions. The experimental results prove the theoretical implications. There are 7 figures, 1 table, and 6 non-Soviet references.

Card 2/2

DIDENKO, K.I.; KORSUNSKIY, L.M.; LEVIN, V.M.; LINETSKIY, I.R.

Compensatory electromagnetic flowmeter with an automatic
suppression of the quadrature interference. Priborostroenie
no.7:11-13 J1 '61. (MIRA 14:6)

(Flowmeters)

KORSUNSKIY, L. M., Cand Tech Sci --"Study of the electro-
magnetic method of measuring the consumption of liquids."
(Com of Stand, Meas, ^{and} ^{meas} ^{using devices} ^{under the} ~~Instrum attached to~~ Council
of Ministers USSR. All-Union Sci Res Inst Metrology im
D. I. Mendeleev) (KL, 8-61, 244)

- 250 -

S/115/61/000/008/009/009
E194/E119

AUTHORS: Korsunskiy, L.M., and Madikyan, E.M.
TITLE: An electromagnetic flowmeter with an error not exceeding 0.5% of the full scale value

PERIODICAL: Izmeritel'naya tekhnika, no.8, 1961, 53-55

TEXT: The Khar'kovskiy gosudarstvennyy institut mer i izmeritel'nykh priborov (Khar'kov State Institute of Measures and Measuring Instruments) has developed and made a prototype electromagnetic flowmeter with a scale maximum of 500 m³/hour and error not greater than 0.5% of the full scale reading. The fluid flows in a rectangular duct (70 x 220 mm) of methacrylate polymer through the field of an a.c. magnet. The magnet is made of transformer steel. A tuned bank of capacitors is connected in parallel with the magnet winding, which greatly reduces the current demand; the power consumption is not greater than 400 VA. The chamber is screened against interference, which does not exceed 5 μV. A flow rate of 500 m³/hour gives an output voltage of 12 mV. A schematic diagram of the secondary circuit is shown in Fig.2. The output voltage from the pick-up is compensated by

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An electromagnetic flowmeter with ... S/115/61/000/008/009/009
E194/E119

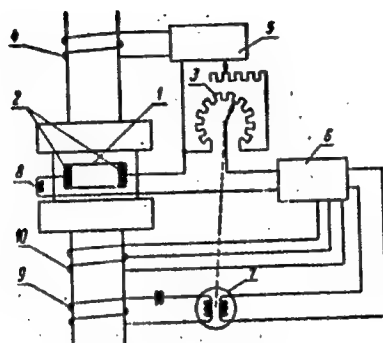
voltage derived from a motor driven rheostat 3; here 1 is the chamber described above and 2 the electrodes. The rheostat is supplied through a phase shifter 5 from a special coil 4 on the magnet armature so that variations in the magnetic field have little influence on the readings. The difference between the voltage of the cell and that of the rheostat is applied to amplifier 6 by means of an RC circuit. This controls the reversing motor 7 which drives the rheostat. The input resistance of the amplifier is of the order of 3 megohms so that liquids can be measured if the specific resistance does not exceed $10^5 - 10^6$ ohm cm. To obtain stable phase relationships the field winding of the reversing motor and the anode circuit of the last stage of the amplifier are respectively fed from special windings 9 and 10 on the magnet armature. A correction curve was constructed to allow for errors in manufacture of the rheostat. The total error was found not to exceed 0.5% of the maximum scale readings. Supply voltage variations in the range 200-220 V did not affect the readings. There are 4 figures and 1 Soviet-bloc reference.

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An electromagnetic flowmeter with...

S/115/61/000/008/009/009
E194/E119

Fig. 2



Card 3/3

KORSUMSKIY, L.M.; LINETSKIY, I.R.

Use of electromagnetic flowmeters to measure the flow of ore
pulp. TSvet.met. 35 no.2:15-22 F '62. (MIRA 15:2)
(Ore dressing) (Automatic control) (Electromagnets)

LINETSKIY, I. R.; KORSUNSKIY, L. M.

Electronic circuit of an industrial electromagnetic flowmeter.
Iss. tekhn. no.10:55-58 0 '62. (MIRA 15:10)

(Electronic circuits) (Flowmeters)

CHERNYAK, Yu.A.; MARCHENKO, V.A.; KORSUNSKIY, L.M., kand.tekhn.nauk

Electromagnetic flowmeter with a standard secondary instrument. Avtom.i prib. no.1:56-59 Ja-Mr '63. (MIRA 16:3)

1. Ukrainskiy gosudarstvennyy proyektnyy institut "Tyazhpromavtomatika" (for Chernyak, Marchenko). 2. Khar'kovskiy gosudarstvennyy institut mer i izmeritel'nykh priborov (for Korsunskiy).
(Flowmeters)

ACCESSION NR: AT4042308

S/0000/63/003/000/0309/0314

AUTHOR: Korsunsky, L. M.

TITLE: The applicability of electromagnetic flow meters to media with low conductivity

SOURCE: Soveshchaniye po teoreticheskoy i prikladnoy magnitnoy gidrodinamike. 3d, Riga, 1962. Voprosy* magnitnoy gidrodinamiki (Problems in magnetic hydrodynamics); doklady* soveshchaniya, v. 3. Riga, Izd-vo AN LatSSR, 1963, 309-314

TOPIC TAGS: hydromagnetics, flow meter, electromagnetic flow meter, nonconducting liquid flow

ABSTRACT: The author notes that the normal area of applicability of electromagnetic flow meters in the measurement of various liquids (liquid metals, electrolytic solutions, pulps, etc.) is limited to media having a conductivity greater than $10^{-7} - 10^{-5} \text{ ohm}^{-1} \cdot \text{cm}^{-1}$, and that these devices are not employed for organic liquids with conductivity values in the $10^{-7} - 10^{-18} \text{ ohm}^{-1} \cdot \text{cm}^{-1}$ range. In this paper, he reports investigations, conducted in the Khar'kovskiy gosudarstvennyy institut mer i izmeritel'nykh priborov (Khar'kov State Institute of Measures and Measuring Instruments), to determine the feasibility of employing electromagnetic flow meters for the measurement of liquids of this type. The author considers the limitations encountered, and shows that a liquid conductivity on the

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Card

ACCESSION NR: AT4042308

order of $10^{-8} - 10^{-9} \text{ ohm}^{-1} \cdot \text{cm}^{-1}$ constitutes a threshold, beyond which new concepts from the point of view of design and circuitry are required. It is noted that beyond this limit, in the case of the instruments presently in use, one of the most important advantages of the electromagnetic flow meter is necessarily lost: namely, its independence from the physical properties of the liquids being measured. The use of the instrument beyond this threshold is therefore self-defeating. The author thus reduces the problem to the elimination of the effect of bias currents in the various elements of the measurement circuit, the lessening of the overall resistance of the measurement circuit, and the provision, under these conditions, of the necessary ratio between the input impedance of the test device and the internal resistance of the sensor. Bias currents arise only in alternating electrical fields, while a constant electrical field will be induced in a liquid flowing in a constant magnetic field, so that bias currents should have no effect on the readings of electromagnetic flow meters having such a constant magnetic field. However, in the case of media with ion conductivity, such devices are unsuitable because of the considerable magnitude and variability of the natural galvanic EMF of the flow meter sensor. This problem has been solved by employing a square-pulse magnetic field of changing sign and a test circuitry incorporating a time selection feature. The principle

2/3

Card

L 41865-65 EWF(1)/EPA(s)-2/EWT(m)/EPF(n)-2/ENP(t)/ENP(b) Pt-7/Pu-4 GW/
WH/JD/JG

ACCESSION NR AM5006623

BOOK EXPLOITATION

S/

Korsunskiy, Lev Moiseyevich

Electromagnetic hydrometric instruments (Elektromagnitnyye gidrometricheskiye
instrumenty), Izd-vo Standartov, 1961, 179 p. illus., biblio. 3,000
copies printed.

SYNOPSIS: electromagnetic hydrometric instrument, flow meter, blood
flow, ocean current, molten metal flow

DESCRIPTION: This book is devoted to a rapidly developing type of
instrument based on electromagnetic induction. It is intended to
provide a detailed method for the design and construction of
electromagnetic hydrometric instruments for measuring the flow of
liquids, gases, and molten metals. The book contains a detailed
description of the principles of operation, construction, and use of
these instruments, as well as a bibliography of the literature on
this subject. The book is intended for engineers, technicians, and
scientists working in the field of flow measurement.

ACCESSION NR AM5006623

... branches of industry, for biologists and medical workers studying
... researchers and ... interested in
... measurement of flow. It will be ... to
... educational institutions.

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features -- 5

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conductivity -- 21

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conductivity -- 58

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Ch. VIII. Instruments for measuring the rate of blood circulation in
organisms -- 144

Card 2/3

SUBMITTED: 20 FEB 64

BRAUDE, V.A.; DIDENKO, K.I., kand. tekhn. nauk; KORSUNSKIY, L.M.; LEVIN, V.M.

The REF electromagnetic flowmeters. Avtom. i prib. no.2:75-78 Ap-Je '65.
(MIRA 18:7)

KORSUNSKIY, Lev Naumovich; KERBER, L.L., doktor tekhn. nauk,
retsenzent; LOSYAKOV, S.N., doktor tekhn. nauk, prof.,
retsenzent; LYUBIMOVA, T.M., red.

[Radio-wave propagation in airplane radio communications]
Rasprostraneniye radiovoln pri samoletnoi radiosvyazi. Mo-
skva, Sovetskoe radio, 1965. 407 p. (MIRA 18:9)

L 25559-66 EWT(d)/FSS-2/FCC/EWT(1)/REC(k)-2 GW/WS-2

ACC NR: AM6004818

Monograph

UR, 48
45
BT-1

Korsunskiy, Lev Naumovich

Propagation of radio waves in aircraft communications (Rasprostraneniye radiovoln pri samoletnoy radiosvyazi) Moscow, Izd-vo "Sovetskoye radio", 1965. 407 p. illus., biblio. 6,300 copies printed

TOPIC TAGS: radio wave propagation, air communication, tropospheric scatter communication, point to point radio, uhf propagation

PURPOSE AND COVERAGE: This is a revised and supplemented edition of an earlier book by the author (Main Problems in the Propagation of Radio Waves in the Case of Long-Distance Airplane Radio Communication) published in 1957. It considers the main problems of radio wave propagation, which must be solved to permit the design of airplane radio communication lines at long, medium, short, and ultrashort waves. The main laws governing the variations of the parameters of the ionosphere and troposphere, laws of reflection, refraction, scattering, and absorption of radio waves in them are considered. The data necessary to calculate the optimal and minimal usable short-wave frequencies to operate over specified distances, are presented, and information is given on the energetics of radio-communication lines based on tropospheric and ionospheric scattering, and on UHF line-of-sight radio communication when one or both correspondents are high above the earth. Among the subjects dealt with are the influence of boundary surfaces on the propagation of electromagnetic energy, factors governing the attenuation of plane vertically polarized waves parallel to the boundary surface at frequencies below and above the cutoff frequency of the

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waveguide made up by the boundary surfaces, the structure of ionized layers and processes occurring in them, the effect of inhomogeneities in the layers, and long-distance radio wave propagation. The book is intended for engineering-technical personnel servicing airplane radio communication lines and for students in higher institutions of learning. Author thanks the following reviewers: his teacher, Doctor of Technical Sciences I. L. Kerber, and Doctor of Technical Sciences Professor S. N. Losyakov whose remarks lead to improvement of the developed material, and graduate student L. V. Kudinov for great help in preparing the present edition.

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REZNIKOV, G.B.; BENENSON, L.S., kand. tekhn. nauk, retsenzent;
KORSUNSKIY, L.N., kand. tekhn.nauk, retsenzent; MASHANOVA,
V.G., red.; BELYAYEVA, V.V., tekhn. red.

[Aircraft antennas] Samoletnye antennoy. Moskva, Sovetskoe
radio, 1962. 455 p. (MIRA 15:12)

(Airplanes--Electronic equipment)

(Antennas (Electronics))

(Airplanes--Radio equipment)

KORSUNSKIY, M.

Special features of the design of flexible top dressings of roads for
superheavy vehicles. Avt. dor. 26 no.2:26-28 F '63. (MIRA 16:4)
(Pavements)

AKIMOVA, G. T.; KORSUNSKIY, M. B.; KRIVISSKIY, A. M.; ROTOV, M. N.; ROGOVSKIY, L. V.
FEYNBERT, G. M.

Komplekti Dorozhnih Mashin (Sets of Road Machinery), Moscow, 1948.

TELEGIN, Mikhail Yakovlevich; BAYLOBZHESKIY, Grigoriy Valerianovich;
KORSUNSKIY, Mark Borisovich; ALEKSEYEV, A. P., redaktor; MAL'KOVA,
N.V., tekhnicheskii redaktor.

[Maintenance and repair of automobile roads] Soderzhanie i remont
avtomobil'nykh doreg. Moskva, Nauchno-tekhnicheskoe izd-vo avto-
transpo. lit-ry, 1955 185 p. (MLRA 8:12)
(Roads--Maintenance and repair)

KORSUNSKIY, ILYIN, KORSUNSKIY

IVANOV, Nikolay Nikolayevich; ZASHCHEPIN, Aleksey Nikitich; KORSUNSKIY,
Mark Borisovich; MOTYLEV, Yuliy Lazarevich; PUZAKOV, Nikolay
Antonovich; TULAYEV, Aleksandr Yakovlevich; BABKOV, V.F., redaktor;
GALAKTIONOVA, Ye.N., tekhnicheskii redaktor

[Planning the surfacing of roads] Proektirovanie dorozhnykh
odeshd. Moskva, Nauchno-tekhn. izd-vo avtotransp. lit-ry, 1955.
249 p. (MLRA 9:3)

(Road construction)

TELEGIN, M.Ya.; KORSUNSKIY, M.B., p ZEL'MANOVICH, M.S.; ALMESEYEV, A.P.,
redaktor; MAL'KOVA, N.V., tekhnicheskiy redaktor

[Efficiency and life characteristics of flexible road surfaces]
Rabotosposobnost' i meshremontnye sroki sluzhby nezhestkikh dorozh-
nykh odeshd. Moskva, Nauchno-tekhn. izd-vo avtotransp. lit-ry, 1956.
164 p. (MLA 9:11)
(Roads)

Инициалы, и. о.

KRIVISSKIY, A.M., kandidat tekhnicheskikh nauk; KORSUNSKIY, M.B., kandidat tekhnicheskikh nauk; MOTYLEV, Yu.I., kandidat tekhnicheskikh nauk.

Causes of deformations of flexible pavements. Avt.dor. 20 no.3:6-8
Mr. '57. (MLRA 10:5)

(Pavements)

KORSUNSKIY, Mark Borisovich, kand.tekhn.nauk, starshiy nauchnyy sotrudnik;
BYALOBZHESKIY, G.V., red.; LAKHMAN, P.Ye., tekhn.red.

[Inspecting and evaluating the strenght of pavements covered with
soft material] Obsledovanie i otsenka prochnosti dorog s nezhest-
kimi odezhdami. Moskva, Nauchno-tekhn.izd-vo M-va avtomobil'nogo
transp. i shosseinykh dorog RSFSR, 1959. 63 p. (MIRA 12:9)
(Pavements, Asphalt)

TELEGIN, Mikhail Yekovlevich, kand.tekhn.nauk; BYALOBZHESKIY, Grigoriy
Valerianovich, kand.tekhn.nauk; KORSUNSKIY, Mark Borisovich,
kand.tekhn.nauk; ALEKSEYEV, A.P., red.; GALAKTIONOVA, Ye.M.,
tekhn.red.

[Road maintenance and repair] Soderzhanie i remont avtomobil'nykh
dorog. Izd.2., perer. i dop. Moskva, Nauchno-tekhn.izd-vo avto-
transp.lit-ry, 1960. 254 p. (MIRA 14:4)
(Roads--Maintenance and repair)

IGOLKIN, Nikolay Ivanovich, inzh.; GAYDUK, Kirill Vasil'yevich, inzh.;
GUDIMA, Vladimir Savvich, inzh.; KORSUNSKIY, Mark Borisovich, kand.
tekhn.nauk; NIKONOV, Petr Vasil'yevich, inzh.; SARKIS'YANTS, Georgiy
Aleksandrovich, inzh.; SABSATSKIKH, Prokhor Ignat'yevich, inzh.;
ORHATSKIY, M.V., prof., doktor tekhn.nauk, glavnyy red.; BYALO-
BZHESKIY, G.V., kand.tekhn.nauk, red.; IVANOV, S.S., red.; GALAKTIO-
NOVA, Ye.M., tekhn.red.

[Manual for road builders; maintenance and repair of highways]
Spravochnik inshenera-dorozhnika; sodershanie i remont avtomobil'nykh
dorog. Moskva, Nauchno-tekhn.isd-vo M-va avtomobil'nogo transporta
i shosseinykh dorog BSFSR, 1960. 326 p. (MIRA 13:9)
(Roads--Maintenance and repair)

KORSUNSKIY, M.B., kand.tekhn.nauk

Deformations in road surfaces and the time factor. Avt. dor.
24 no.7:25-27 J1 '61. (MIRA 14:7)
(Roads)

KORSUNSKIY, M.B., kand.tekhn.nauk

Extending the testing period for top dressing. Avt. dor. 27
no. 3:28-29 Mr '64. (MIRA 17:5)

KORSUNSKIY, M.B.

Determining the stresses and shifts in the foundations of structures generating a vertical uniform pressure on the surface of a circular area. Sbor. trud. NIIsn. no.55: 5-15 '64.

(MIRA 18:3)

KORSUNSKIY, Moisey Izrailevich; KUZNETSOVA, Ye.B., red.

[Optics, atomic structure, and the atomic nucleus]
Optika, stroenie atoma, atomnoe iadro. Izd.2., ispr. i
dop. Moskva, Nauka, 1964. 527 p. (MIRA 17:10)

KORSUNSKIY, M. I.

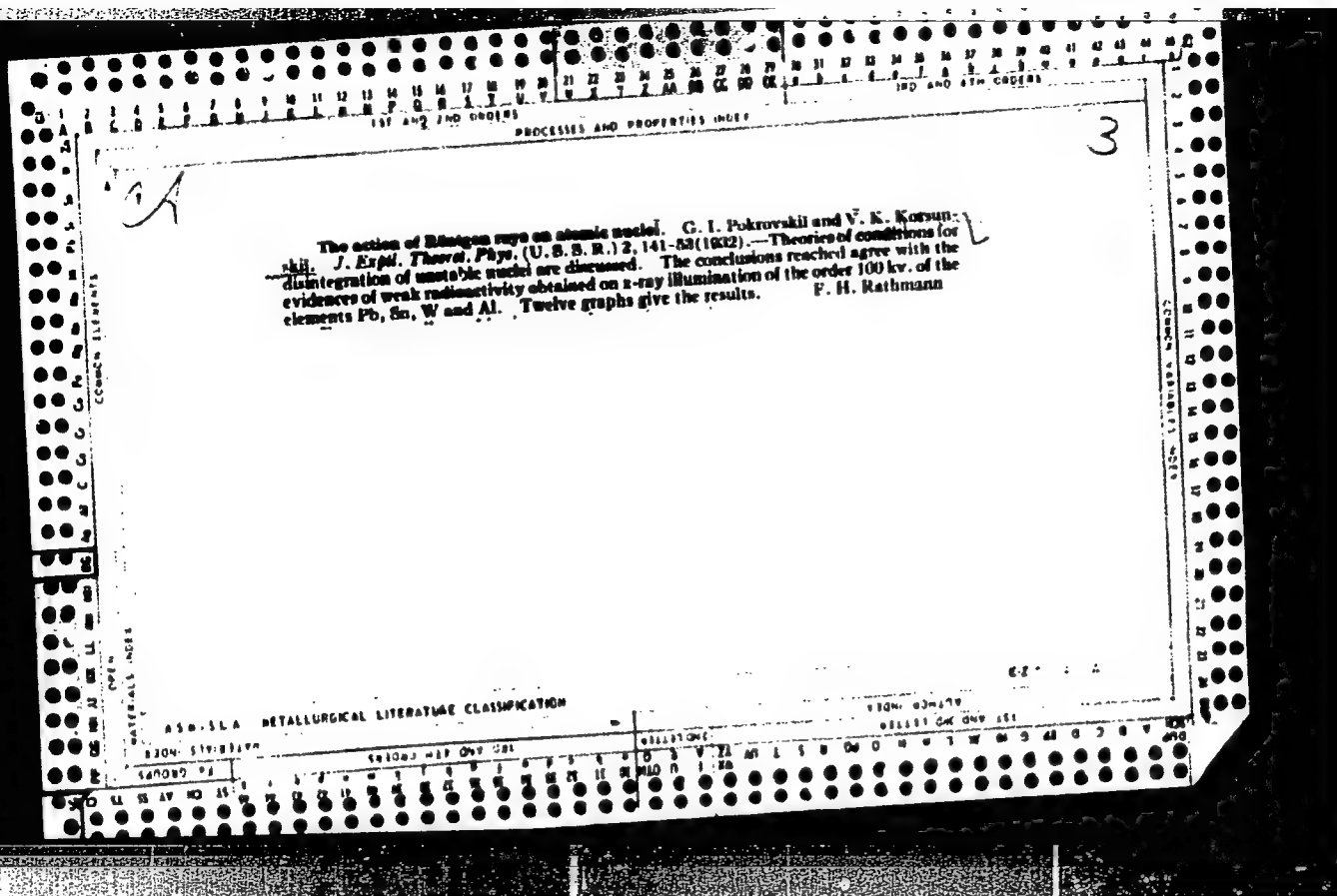
3

New method of measuring wave lengths by means of a fixed crystal. M. I. Korsunskiy and N. Ya. Silvanov. *Trans. Phys.-Tech. Lab. Leningrad*, No. 3, 23-32 (1959). A method of measuring wave lengths by means of a fixed crystal was devised on the basis of a newly derived math equation: $\cotan(\theta_1 - \theta_2) = (a_{11} a_{22}) / (a_{21} a_{12}) \cdot [\sin(\theta_1 - \theta_2) / \sin(\theta_1 + \theta_2)] - \cotan(\theta_1 + \theta_2)$, where θ is the angle of reflection of an unknown wave length, a_{11} , a_{12} , a_{21} and a_{22} are distances between the corresponding lines on the photographic plate and θ_1 , θ_2 and θ_3 are known angles of reflection from the crystal. The equation does not depend on the crystal position or on the relative positions of the photographic plate and of the crystal. Thus, sources of error due to inexact installation of the crystal and of the plate are excluded. The measurement is simple, as it does not require the installation of the crystal exactly on the axis of rotation, or the installation of the plate in a definite position with regard to the line passing through the slit and the axis of the spectograph. V. Vlasovskiy

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

U.S.S.R. METALLURGICAL LITERATURE CLASSIFICATION

Diffraction of x-rays in liquids. M. Kamenetskii. Uspekhi Fiz. Nauk 10, 719-36
(1930). P. H. Rathmann



CA 3

PROCESSING AND PREPARATION

THE MASS DEFECT IN THE HEAVY ELEMENTS. M. I. KURSU-
shil. *Compt. rend. acad. sci. U. R. S. S.* 2, 112 (1935) (English 113-14) (1935).--The curve of the mass defect
of elements up to A plotted against the isotope mass shows
breaks at nuclei formed from an even no. of protons and
neutrons. This leads to the supposition that the light
nuclei, up to Ca, are formed of groups of α -particles.
The magnitude of the forces between particles belonging
to different groups is evaluated as follows: mass defect
of $\text{He}^4 = 0.027$; mass defect corresponding to 1 α -
particle = 0.032 a.u.; energy characterizing the interaction
between the 2 groups $\pm 5 \times 10^6$ m. e. v. A. S. S.

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11100 517-83118

11100 517-83118

CA

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Deviations from the Sommerfeld formula for the K levels. M. I. Kuznetsov. *Compt. rend. acad. sci. U. R. S. S. 2, 114* (in English) (1963). The value of the electronic charge for the K electrons of the light elements obtained at the critical value of the acceleration is too low; the true value is obtained only with the heavy elements (cf. Furry and Oppenheimer, *C. A. 28, 2085*). This underestimating of the charge leads to deviations from the Sommerfeld formula. These deviations cannot be ascribed to an incomplete allowance for the influence exerted by the remaining electrons on those in the K level. Allen S. South

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PROCESSING AND PROPERTY INDEX																									
SA													A-53 BB												
<p>195. β-ray spectrum of radio-iodine. M. KORSUNSKIY, N. NIKOLAEVSKAYA AND M. BAKH. <i>J. of Exp. and Theor. Phys. U.S.S.R.</i>, 9, 5, pp. 524-525, 1959. <i>In Russian.</i>—The energy spectrum of the β-rays from radio-iodine (I^{131}) was measured with a magnetic spectrometer using coincidence counters in the range from 0.6 to 2.0 eMV. The form of the spectrum agreed well with the Uhlenbeck-Konopinski formula. It is suggested that the slight deviations from the curve of points at 1.1 and 1.6 eMV may be due to internally converted γ-rays. D. S.</p>																									
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